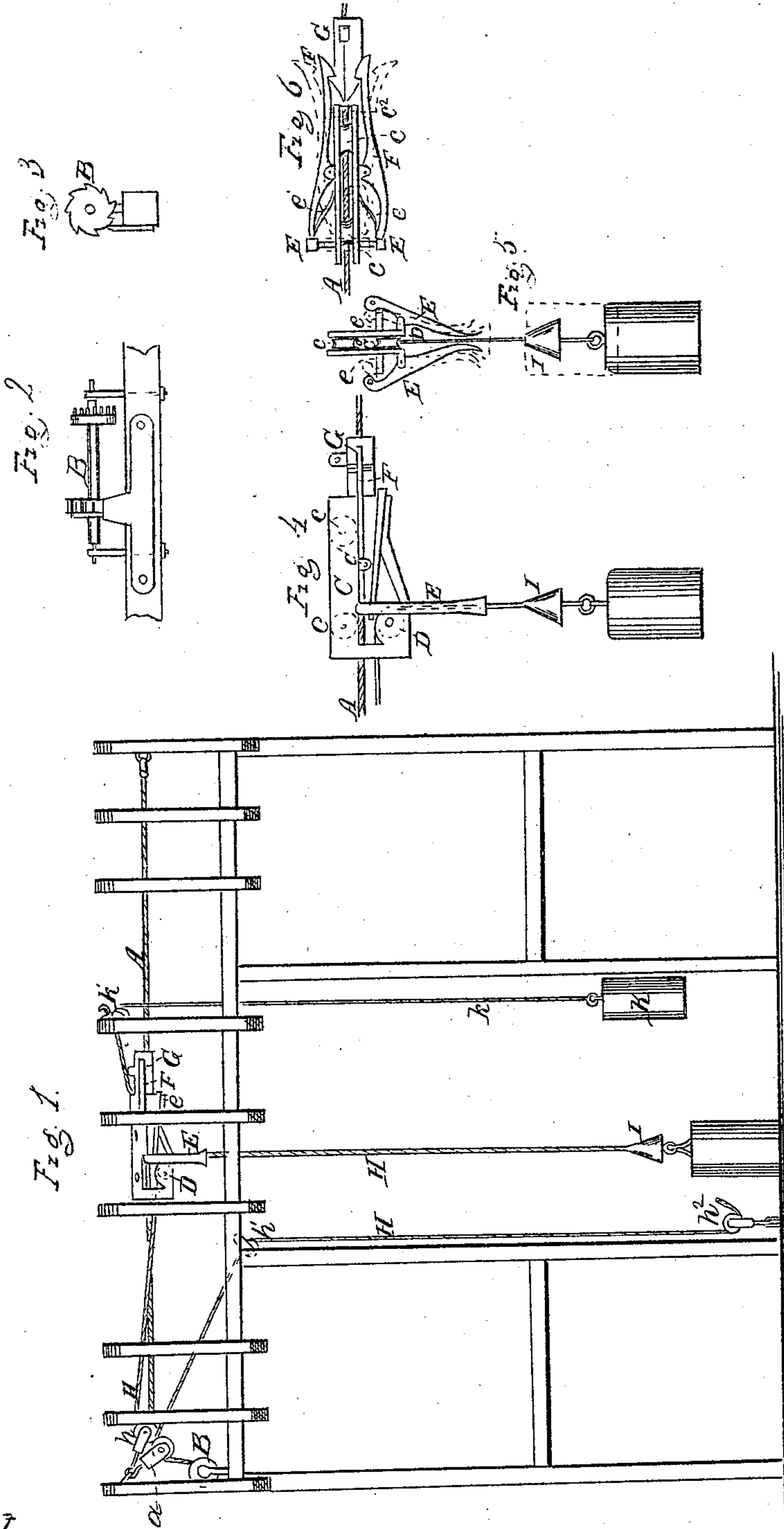


Secrist & Seyster,

Hay Elevator.

No. 93,236.

Patented Aug. 3. 1869.



Attest
C. F. Clausen
R. Mason

Sam'l. B. Secrist
Isaac Seyster
Inventors
by
Edson Brothers
Atty.

United States Patent Office.

SAMUEL B. SECRIST AND ISAAC SEYSTER, OF OGLE COUNTY, ILLINOIS.

Letters Patent No. 93,236, dated August 3, 1869.

IMPROVED HAY-ELEVATOR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, SAMUEL B. SECRIST and ISAAC SEYSTER, of the county of Ogle, in the State of Illinois, have invented a new and improved "Hoisting and Delivery-Apparatus;" and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents a side elevation of the skeleton or frame-work of a barn to which my apparatus has been attached;

Figure 2, a side elevation of the windlass;

Figure 3, a front view of the same;

Figure 4, a side elevation of the carriage and the devices by which it is held in the desired position during the hoisting-operation;

Figure 5 represents a front view of the same, in which the red outlines indicate how the carriage is released at the end of the hoisting-operation; and

Figure 6 is a plan or top view of the same, the red outlines indicating the same, as in the preceding figure.

Corresponding letters refer to corresponding parts in the several figures.

Our invention relates to portable hoisting-apparatus, which may be used for loading and unloading hay, straw, manure, &c., or for excavating purposes, said apparatus being so constructed as to deliver the raised substances at any given point; and

It consists in the construction and arrangement of its several parts, as hereinafter more fully described.

To illustrate the operation of our apparatus, we have shown it in the drawings as attached to a barn.

A represents the wire rope or guy on which the carriage is placed. One end of it is secured, by means of a hook-and-eye bolt, to one end of the barn, under the roof, and it is then extended along horizontally to the other end of the barn, and, after it has been passed over the block *a*, which is suspended from the rafters, it is attached to the drum of a windlass and wound upon it until it has the required tension.

B represents the windlass, which may be of the most simple construction, its sole object being to hold the wire rope or guy at the necessary tension. It is secured under the block *a* to a cross-beam of the barn in any convenient manner.

C represents the frame of the carriage, which may be made of sheet-metal, and must have the necessary strength and dimensions to carry the different parts which are attached to it.

Near each end and in its upper portion it has grooved rollers, *c c*, which are placed between the sides of the frame and revolve on shafts, which are secured in the

frame in such a manner that they can be easily detached therefrom.

These grooved rollers rest on the guy, and in order to keep the carriage always in proper position on it a friction-roller, *c'*, is placed in the frame between the grooved rollers, and in such a manner that as the latter rests on the upper surface of the wire rope, its lower surface lies on top of the friction-roller.

D represents the pulley, which revolves on a shaft secured to the sides of the frame of its carriage on one end of it, and in its lower portion. Over this the tackle passes by means of which substances may be raised.

E E represent two levers of the form clearly shown in fig. 5 of the drawings. They are hinged to lugs on the frame of the carriage in such a manner that their long curved arms extend downward vertically, and that that portion of the tackle to which the cone I, hereafter to be described, is attached, may move between them. The inner sides of these arms of the levers may be made concave where they are made to meet, thus surrounding the tackle.

To the ends of the short arms, the latches F are hinged, and they are acted on by the springs *e e*, which are fastened to the sides of the frame, so as to throw them apart and bring the long arms together.

F F represent the latches or hooked levers, which are pivoted on each side of the frame to lugs in a horizontal position. One end of them is attached to the upper short arms of the levers E, while their other ends, which have the form of a hook, as clearly shown in fig. 6, extend a short distance beyond the carriage and hook over the double catch.

G represents the double catch which is clamped to the wire rope at the proper point, and in such a manner that, as the carriage is drawn up to it, the latches F will hook over the catches and hold the carriage in the proper position until they are again released from it by the action of the cone.

The catch consists of two plates of metal, the straight inner sides of which have longitudinal grooves, in which the wire rope lies, when they are clamped to it. On the outer sides, on one end, they are provided with hooks, as shown in fig. 6.

H represents the tackle, which is passed between the suspended arms of the levers E over the pulley D of the carriage along in a horizontal direction to the end of the barn over the pulley of the block *h*, which is suspended from the rafters, thence in an oblique direction to the block *h'*, which is attached to the side of the barn, and then down to the block *h''*, which is secured to the floor of the barn.

I represents the cone, which is attached to that end

of the tackle which hangs from the pulley of the carriage, and to which the weight to be raised is attached. It slips over the tackle, and may be secured to it at any point in any convenient manner. Its object is to separate the suspended curved arms of the levers E when the weight has been raised to the desired height, and thereby disengage the latches from the double catch.

K represents the counterweight, which is secured to the end of a rope, k, said rope passing over the block k', which is suspended from the rafters directly above the guy and back of the double catch and carriage, and thence to that end of the carriage nearest to the catch, when it is secured to said carriage in any convenient manner.

The weight must be heavy enough to draw the carriage back to the catch when the load has been deposited.

The operation is as follows:

A load of hay or grain is drawn directly under the carriage of the apparatus. The cone is secured to the tackle, so that it will release the carriage when the hay or grain has been raised to the necessary height. The hay is now taken up by means of a fork attached to the end of the tackle, which hangs down from the carriage and raised by employing the necessary power at the other end of the tackle until the cone is drawn between the levers E, separating them, and thereby releasing the latches from the double catch.

The carriage will at once be drawn along the guy up to the point where it is desired to deposit the hay,

which being accomplished and the tackle slacked, the carriage will be drawn back to the double catch and its latches become engaged thereto by the action of the counterweight.

When it is desired to remove the apparatus from one place to another, the tackle and its blocks can be taken down first, then the guy and windlass removed, and lastly the carriage and counterweight.

Some of the advantages of this apparatus consist in its peculiar construction, by which we are enabled to transport it from place to place with ease and rig it up at a small expense, and that it will deliver raised weights at any given point.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent, is—

1. The double catch G, substantially as and for the purpose described.

2. The combination of the cone I, tackle H, levers E, springs e, latches F, and double catch G, substantially as and for the purpose set forth.

In testimony whereof, we have signed our names to these specifications in the presence of two subscribing witnesses.

SAMUEL B. SECRIST. [L. S.]
ISAAC SEYSTER. [L. S.]

Witnesses:

J. H. ELWARD,
M. D. SWIFT.